

## Manual



**Smart Pilot 10, 15, 19 with Facility Pilot Fullversion**

## GENERAL INFORMATION

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**The present agreement also applies to special appendices to the manual.**

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Please read the manual **before** beginning and keep the manual for later use. The manual has been conceived and written for users who are experienced in the use of PCs and automation technology.

### Conventions

**[KEY]** Keys that are to be pressed by the user are given in square brackets, e.g.

**[CTRL]** or **[DEL]**

**Courier** On-screen messages are given in the Courier font, e.g. C:\>

**Courier bold** Keyboard input to be made by the user are given in Courier bold, e.g. C:\>DIR).

**Italic** Names of buttons to be pressed, menus or other onscreen elements and product names are given in italics. (e.g. *Windows*).

**Symbolic** In this manual the following symbolic are used to indicate particular text blocs.



**Caution!**

A dangerous situation may arise that may cause damage to material.



**Note.**

Hint and additional notes

## SAFETY INSTRUCTIONS

The present operating instructions contain those safety instructions that are required to safely operate the machine.

All persons working with the machine must heed the present operating instructions, especially the safety instructions.

In addition, all local stipulations governing the prevention of accidents must be heeded.

Only trained and authorized personnel may install and operate the machine.

Proper application: The machine has been designed for application in an industrial environment.

The machine has been built using state-of-the-art technology and all applicable safety regulations. However, damage or negative effects to the machine or other material cannot be excluded if the machine is operated.

The machine meets the requirements of the EMC guidelines and of the harmonized European standards.

Modifications to the machine hardware may affect the system's EMC compatibility.

Without special protection measures, the machine must not be used in EX areas and in plants that require special monitoring.

Danger of explosion. Do not expose the buffer batteries to heat. Serious injury may be the result.

The operating voltage of the machine must be within the specified range! The product label provides the required information.

## STANDARD

The *JUNG Smart Pilot* meets the following guidelines and standards:

### Low Voltage Directive 2006/95/CE (ex 73/23/CEE – 93/68/CEE)

Standard to which conformity is declared:

EN 60950-1: 2001-02

Safety

### EMC Directive 2004/108/CE (ex 89/336/CEE – 92/31/CEE – 93/68/CEE)

Standard(s) to which conformity is declared:

Emissions:

EN 61000-6-3 :2002-10

EN 55022:1999 (+A1:2001)

Conducted & Radiated Emissions

Immunity:

EN 61000-6-1 :2002-10

EN 61000-4-2: 1996 (+A1:1998,+A2:2001)

Electrostatic Discharges

EN 61000-4-4: 1996 (+A1:2001,+A2:2002)

Electrical Fast Transient / Burst

EN 61000-4-5: 1997 (+A1:2001)

Surge

EN 61000-4-11: 1997(+A1:2001)

DIPS & Voltage Variations

EN 61000-4-6: 1997(+A1:2001)

Conducted RF

EN 61000-4-3: 1997(+A1:1999,+ A2:2001)

RF Electromagnetic Field

EN 61000-4-3: 1997(+A1:1999,+A1:2001)

50 Hz Magnetic Field

The installation and wiring instructions contained in this documentation must be heeded. Conformity is indicated by the attached CE label.



Regarding DIRECTIVE 2002/96/EC waste electrical and electronic equipment has to be collected separately and is not allowed to dispose as unsorted municipal waste.

General Information	2
Safety instructions	3
Standard	3
Contents	4
A. Product description	5
A1. Front view - JUNG Smart Pilot	5
A2. Interfaces - JUNG Smart Pilot	6
A3. Scope of delivery	6
B. Commissioning	7
B1. Grounding	7
B2. Commissioning	7
B3. Installing the JUNG Smart Pilot	7
B4. The operating system:	8
B5. Configuration of devices	10
C. Technical data	11
C1. Mechanical data	11
C2. JUNG Smart Pilot Data Overview	13
C3. JUNG Smart Pilot Wall Mount Box	14
Overview:	14
wall mount kit	15
SPxxTBKD	18

## A. *PRODUCT DESCRIPTION*

### A1. *Front view - JUNG Smart Pilot*



Smart Pilot with frame in black glass



Smart Pilot with frame in white glass

The JUNG Smart Pilot has various connection possibilities on his back side. All necessary interfaces can be found there.

Detailed information's to all interfaces of the *JUNG SMART PILOT* are described in the technical manual of the motherboard manufacturer. An original copy of the manual can be found in the packaging.



**Note:**

Depending from your configuration the *JUNG SMART PILOT* can have different interfaces. Please refer to chapter C2 to see the differences.

## A3. Scope of delivery

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### Hardware

**JUNG Smart Pilot PC**

**Fixing screws to be used with wall mount kit**

### Software

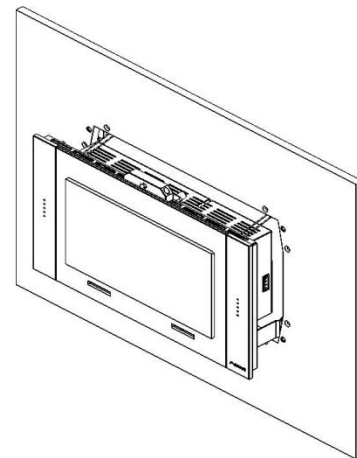
**Pre-Installed, fully functional operating system**

**Driver CD's for touch, display, audio, LAN.**

### Documentation

**Technical manual**

**Warrantee conditions**



**Note**



If Windows XP embedded is part of the order, it will be installed on a partition of the main storage from the manufacturer.

Furthermore you can find the COA (Certificate of Authenticity) sticker attached on the case of the *JUNG Smart Pilot*. Please refer to chapter B4 of this manual which contains important information about the installation of the OS.

## B. COMMISSIONING

### B1. Grounding

The following must be heeded to ensure that all electrical interference is safely absorbed:

Connect the unit and the wall mount kit with a central grounding point using the shortest possible distance.

Make sure that the connection between the unit and the grounding point has the lowest possible impedance.

All data cables connected to the unit must be shielded.

The shields must be grounded at both ends. A low-impedance connection must be established between the linked units. High compensation currents over the cable shields caused by potential differences must be excluded.

Use a green-yellow cable with a minimum cross section of 2,5mm<sup>2</sup> for ground connection.

### B2. Commissioning

A three-pin cold appliance connector supplies the unit with power.

The power supply is able to automatically switch between 115VAC and 230VAC supply voltage. The 24VDC power supply is optional. The nominal power of the power supply is defined in the technical documents.

More technical details of the power supply can be found in section C2.

#### Caution!



Pull out the power plug before opening the unit. Check all cable connections before commissioning the system. Make sure that all voltages and signals meet the specifications.

#### Note: Warranty regulations



JUNG guarantees for *JUNG Smart Pilot* a warranty of 24 months after shipment (valid from date of delivery). The warranty is **only** valid if all transportation takes place with the original package, including all shock absorbing elements, of the product.

Every repair shipment has to be approved by the technical support. Contact us under **mail.vka@JUNG.de**. On that occasion you also get all necessary information, as well as the accompanying letter "repair request".

The original packaging has to be used for all transportations, as well for the one back to the distributor or manufacturer (like for repair). Otherwise JUNG can't give any guarantee for the product. Any damage occurring to the product if incorrectly packed will be charged to the client. Furthermore in such a case JUNG will charge an additional fee for packing.

For repair processes the document "repair request" has to be compiled and returned with the product to allow us to guarantee an efficient service and a two week repair time.

For technical reasons only complete products can be returned to reparation.

### B3. Installing the JUNG Smart Pilot

#### Installing wall mount kit

The wall mount box may be installed in a cut out in the wall, in a wooden structure thick at least 1,5 cm or in a dry mortarless construction. The cut out has to respect the sizes specified in the technical data and has to be at least 8 cm deep.

In the wall cut out, the box can become build in while it can be screwed on in a piece of furniture. It is important that the fore edge of the wall mount kit is flat and horizontally to the surface of the wall or the piece of furniture. The wall mount kit offers cable access at all four sides.

## Installing PC

**Switch off the system/plant supply voltage.**

**Connect the power and controlling cables.**

**After the correct cabling, the PC is put into the wall mount box and is fixed with the four screws included in the packing. Now, you can install your design frame with slight, even pressure.**



**Caution!**

Unauthorized changes or modifications to the PC configuration may result in permanent damage to the system or its functionality. Only authorized trained personnel are allowed to make any modifications.



**Caution!**

Permanent operation of the hard disk can cause damages. To prevent this, the power management set up must be enabled. When running 24 hours a day, the hard disk should be parked at least once a week. This function is provided when the power management setup of the BIOS is enabled.



**Caution!**

If you need to remove the design frame, extract it from the mounting horizontally. One-sided traction or slanted installing can damage the frame.



**Caution!**

**In order to be able to dissipate the warmth produced by the equipment, it must be guaranteed, that the temperature within the mounting box does not exceed 45°C.**

**Under normal conditions this is given with an ambient temperature of up to 30°C. If these values are exceeded, additional cooling has to be provided.**

**The equipment must be installed vertically, i.e. the front plate must be in an angle of 90° to the base plate.**

### ***B4. The operating system:***

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#### ***1. Windows XP embedded***

##### ***B4.1 General Information:***

JUNG provides you the *JUNG Smart Pilot* with a completely new kind of operating system: Windows XP embedded. It is a componentized version of Windows XP Professional, what means that it is freely configurable and there can be integrated only the Hard- and Software – supports that are really needed in the final system. This fact not only can reduce the occupied memory for up to 90%, but makes your operating system faster, more secure and even more stable.

JUNG offers you a specifically created version of XP embedded, which can easily be installed on a storage medium of 512 MB and still offers you enough space to install a proper application like a supervisory software or similar.

## B4.2 User advices:



- **IMPORTANT:** JUNG provides you XP embedded always with a feature called EWF-protection. This so called “Enhanced Write Filter” prevents unallowed read or write operations on your storage medium. So there is guaranteed an efficient protection against unauthorized access which protects even your storage medium by stopping background read/write cycles of programs. Because of this protection you can only make changes to the system by saving them using an application named “*Call EWF Tool*” which can be found under “*Start – Programs – Accessories - System Tools*“. If this tool isn’t executed after making changes, everything will be lost after your next restart (and the combined reset of the random access memory (RAM)). The “*Call EWF Tool*” must be used after every change you make, like installation of new programs, alterations to the operating system, ecc. After launching the tool XP embedded will automatically restart to conclude the saving and to prevent from making other non-saved modifications or double savings.
- Because of the EWF-protection XP embedded doesn’t write any of its applications directly on the storage medium, but works only writing in the read access memory (RAM). For this reason it is recommended to create two partitions: the first one for the OS installation, the second one for backups and saving of big files. This causes an increase of efficiency and speeds up your applications. JUNG makes this settings as standard on storage mediums bigger than 512 MB (where partition C is for XP embedded, partition D for data).
- The partition D is not protected by EWF, all data can be saved there without the necessity of launching the „*Call EWF Tool*“. Exception are all types of software that during the installation process copy files to the Windows folder (and so to the C partition). After the installation the “*Call EWF Tool*” has to be launched, otherwise it is possible that some connections get lost and the software doesn’t work properly.
- Every restart requested by Windows or any of its applications is ineffective due to the EWF-protection. If a program requests a restart after installation it should be made using the “*Call EWF Tool*”.

This information applies only to the XP embedded image created by JUNG and is not transferable.

## B4.3 Slideshow:

In order to let your personal picture show run, please follow these steps:

- You can copy your own pictures through the USB socket or over other interfaces on the PC. Heed that user data always have to be stored on the second Partition (D:).
- Open the display control panel at "Start/Control Panel/Display"
- Click on the voice "Screensaver" and open the "My of pictures Slideshow"
- Configure the screensaver through a click on "Settings". In the particular mode, you can select the folder where your pictures are with "Use pictures in the folder" clicking on "Browse."



**Read the warning hint in chapter B4.2 how to store any change in the system configuration under XP embedded.**

**Device driver**

To install the graphics, Ethernet and audio driver insert the main board manufacturer CD in the CD drive and follow the instructions guide which leads you through the installation procedure.

**Touch Screen installation**

To install the touch screen driver, please insert the *JUNG Drivers & Manuals* CD in the CD drive and start the file “setup.exe” in the directory of the installed operating system and follow the guided procedure (for the Touch Screen type [Penmount] please refer to the label on the rear cover of the *JUNG Smart Pilot*).

**Automatic START UP of JUNG Smart Pilot**

JUNG provides you the *JUNG Smart Pilot* with an automatic Power-On setting which secures that the PC will restart after a power failure or power loss.

**Power save options**

**To prevent the TIR (Temporary Image Retention) effect it has to be set up a screen saver starting automatically within 30 minutes after the last usage of the JUNG Smart Pilot. Furthermore power save options like automatic display shutdown should be enabled to ensure a long life of all components.**

### C1. Mechanical data

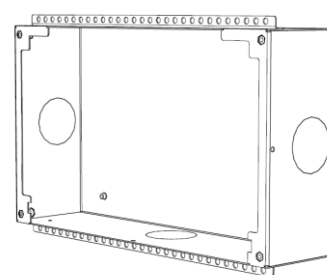
Outside dimensions JUNG Smart Pilot - Frame:

	SP10	SP15	SP19
length (d):	333 mm	510 mm	600 mm
height (e):	200 mm	306 mm	345 mm



Cut-out dimensions wall mount Box:

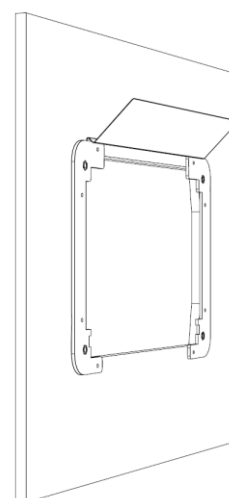
	SP10EBGD	SP15EBGD	SP19EBGD
length (d):	315 mm	492 mm	582 mm
height (e):	182 mm	288 mm	327 mm
depth:	80 mm	80 mm	80 mm



Dimensions in mortarless mount kit:

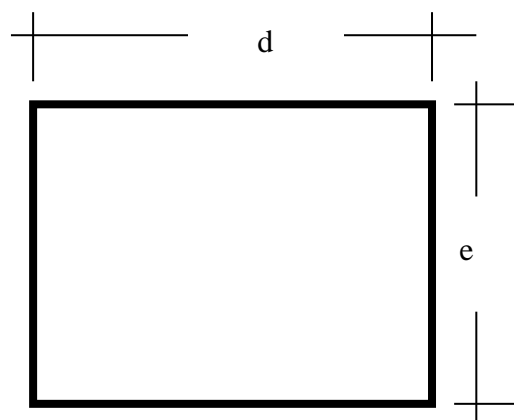
	SP10TBKD	SP15TBKD	SP19TBKD
length (d):	345 mm	522 mm	612 mm
height (e):	212 mm	318 mm	357 mm
depth:	80 mm	80 mm	80 mm

For the cutout see the mounting guide



Cut-out in mortarless mount kit for flush mount

	SP10WEBKD	SP15WEBKD	SP19WEBKD
length (d):	328 mm	506 mm	596 mm
height (e):	196 mm	302 mm	341 mm
depth:	80 mm	80 mm	80 mm





Smart Pilot 10, 15, 19

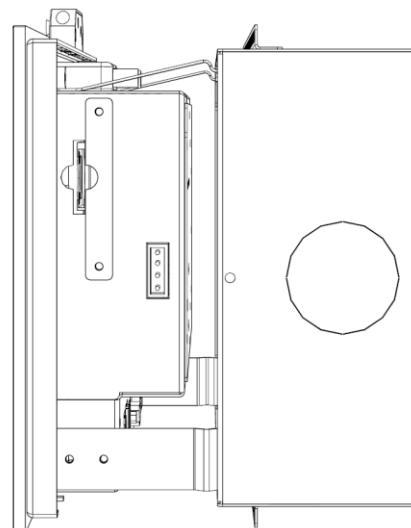
**Fixing elements**

JUNG Smart Pilot has to be fixed to the wall mount box using the 4 furnished screws.

**Mechanical characteristics**

Front face: Alloy anodized

PC Unit: Alloy anodized, follows EMC standards



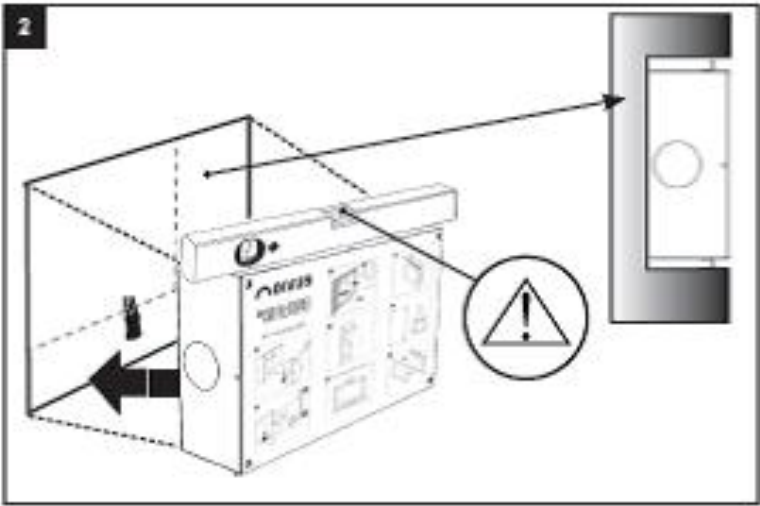
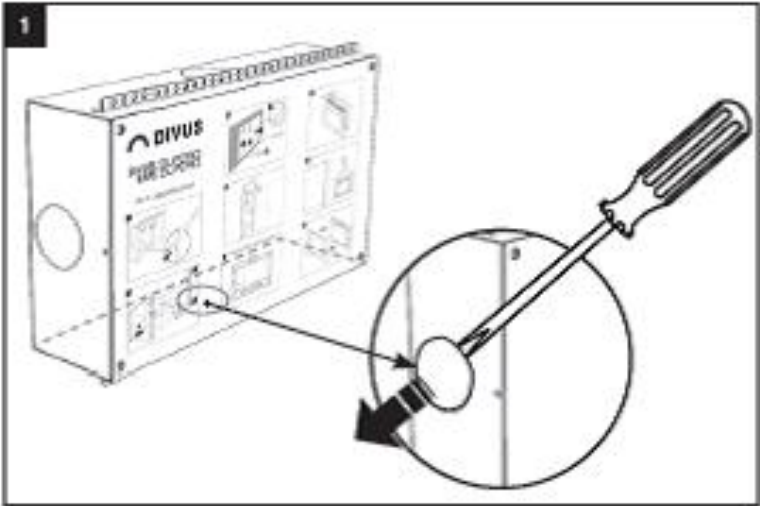
## C2. JUNG Smart Pilot Data Overview

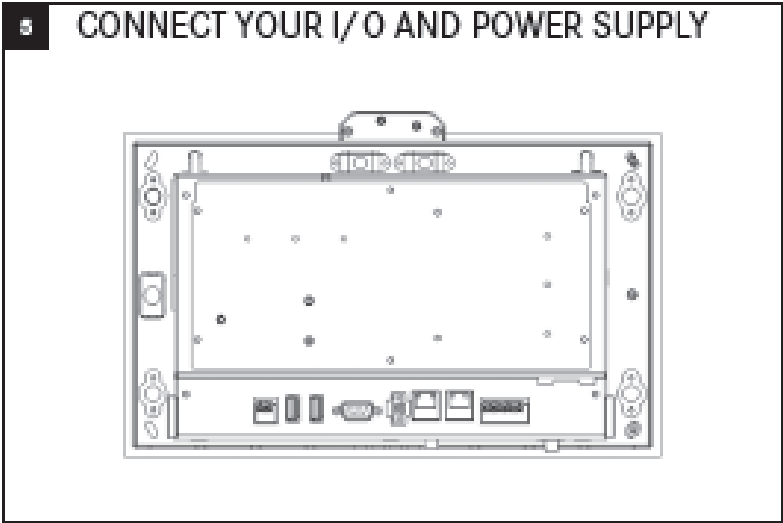
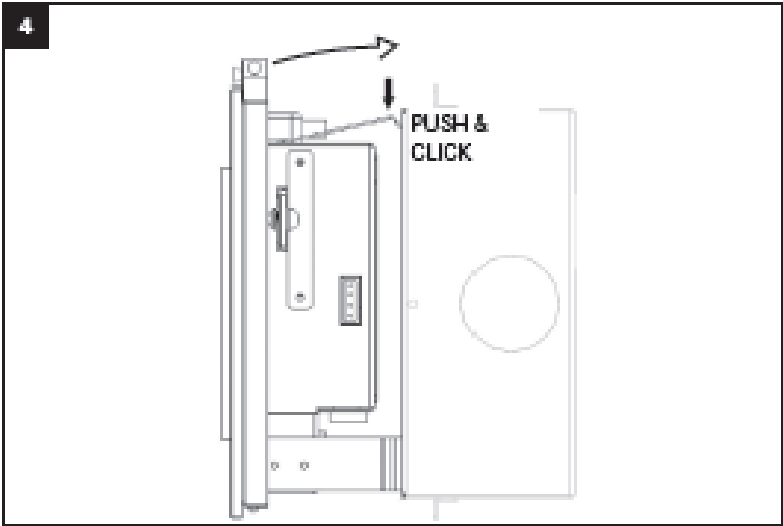
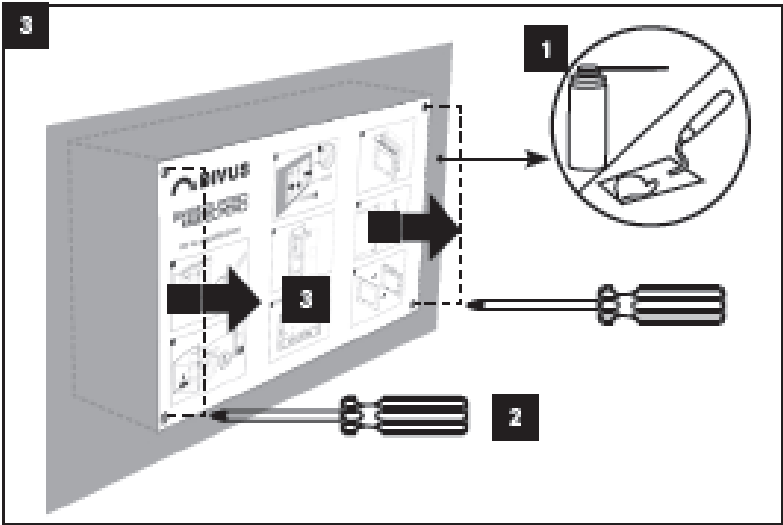
Technical Data	SP10	SP15	SP19
Type of design	Ultra compact embedded PC for wall mount; noiseless and without any rotating part		
Software			
Operating System	Microsoft Windows Embedded Standard 2009 Multilanguage Interface		
Front Unit	10,1“ - 25,6cm widescreen LED backlight TFT	15,6“ - 39,6cm widescreen TFT	18,5“ - 47,0cm widescreen TFT
Luminosity	200cd/m²	300cd/m²	300cd/m²
Contrast	400:1	500:1	1000:1
Resolution (in pixel)	WSVGA 1024x600	WXGA 1366x768	WXGA 1366x768
MTBF backlight	Ca. 30000h	Ca. 50000h	Ca. 50000h
Method of operating	Resistive Touch-Screen, 5-wire technologie		
Rating	IP20 according EN 60529		
General characteristics			
Processor	Fanless low consumption Intel ATOM N450 1,66GHz with integrated GMA3150 graphic controller		
Chipset	Intel ICH8M		
Memory	2GB DDR2 SDRAM		
Power Supply	100 – 240 VAC		
Guarantee	24 months		
Drives			
Storage medium	High-Speed Compact Flash Card with 4GB capacity		
Interfaces			
LAN/Ethernet	2 x 10/100/1000 Mbit/s (ext.)		
USB	3 x USB 2.0 (2 vorderseitig zugänglich, 1 ext.)		
Serial Interface	1 x RS232 / 422 / 485 on DB9 (ext.)		
Multimedia	Speaker and microphone included		
Expansions (optional)	- 2 Megapixel CMOS Web-camera - WiFi optional		
Ambient conditions			
Vibration / Shock resistance	15G / 50G		
EMC	EN 55011, 55022, 500081		
Temperature	+0°C up to +30°C (max.)		
Humidity (rel.)	5% up to 80% at 25°C (no humidity / condensation)		
Prüfzeichen	CE		
Dimensions			
Cut-out with wall box [mm]	315 x 182 x 80	492 x 288 x 80	582 x 327 x 80
Outside with frame [mm]	333 x 200	510 x 306	600 x 345
Weight	5kg	7kg	9kg
Mechanical Characteristics			
Mounting	Fast and easy one man mounting system with wall mount boxes		
Front	Steel and anodized alloy, to use with the wall mount box and cover		
PC unit	Anodized alloy, EMC proofed		

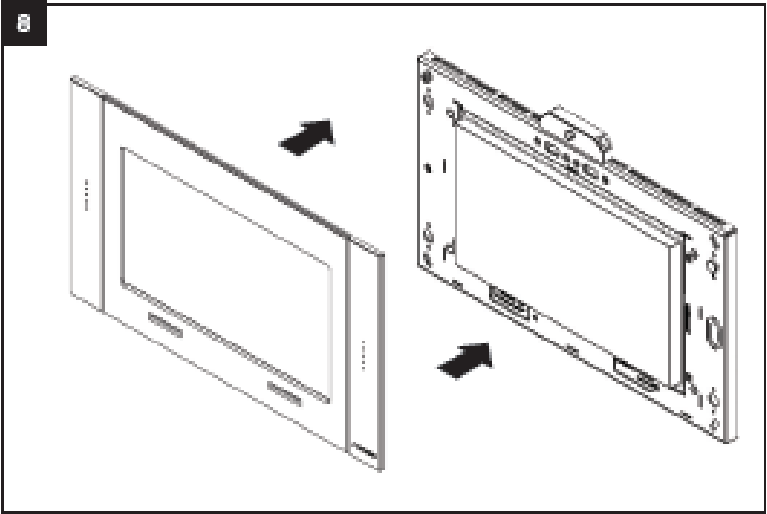
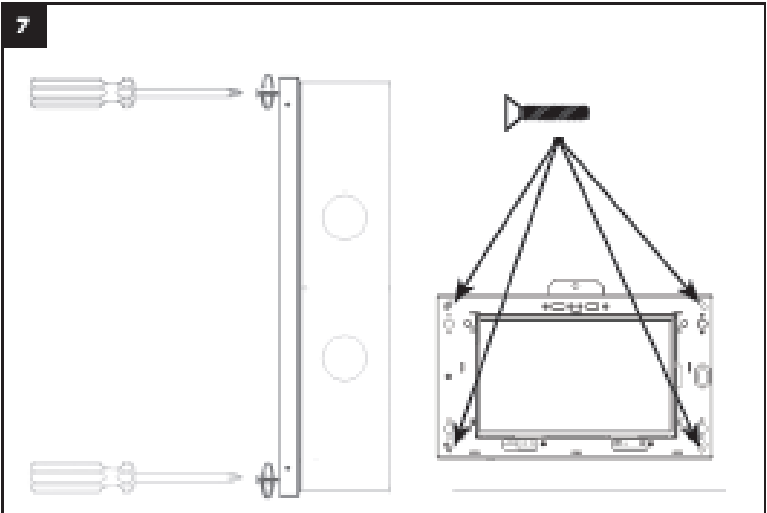
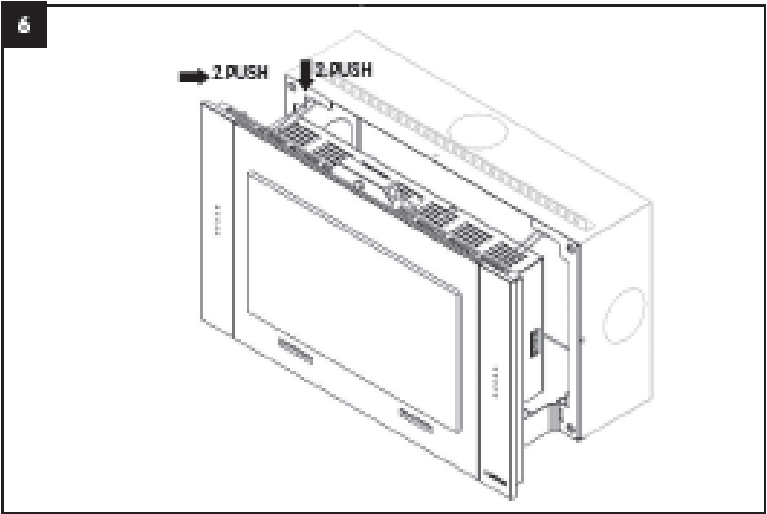
### C3. JUNG Smart Pilot Wall Mount Box

#### Overview:

Types	In wall mount box	In mortarless mount unit	In mortarless flush mount kit
For SP10 – 10,1“	SP10EBGD	SP10TBKD	SP10WEBKD
For SP15 – 15,6“	SP15EBGD	SP15TBKD	SP15WEBKD
For SP19 – 18,5“	SP19EBGD	SP19TBKD	SP19WEBKD
Technical Data			
Type of design	Compact, stable and flat wall mount box	Compact mounting kit for mortarless constructions	Compact flush mount kit for mortarless constructions; <b>Needs backside cavity for ventilation!</b>
Dimensions [mm]			
Cut-out / fixing kit 10,1“	SP10EBGD 315 x 182 x 80	SP10TBKD 345 x 212 x 80	SP10WEBKD 328 x 196 x 90
Cut-out / fixing kit 15,6“	SP15EBGD 492 x 288 x 80	SP15TBKD 522 x 318 x 80	SP15 WEBKD 506 x 302 x 90
Cut-out / fixing kit 18,5“	SP19EBGD 582 x 327 x 80	SP19TBKD 612 x 357 x 80	SP19 WEBKD 596 x 341 x 90
Weight	Ca. 4kg	Ca. 2kg	Ca. 2kg
Mechanical Characteristics			
Wall mount box	Steel plate with cover for clean installation	Steel plate with pattern for easy installation	Steel plate with pattern for easy installation
Cable access	1x top, 1xbottom, 1x left, 1xright	On the back	On the back
Grounding	In addition tot he JUNG Smart Pilot even the SPxx needs to be professionally grounded		
Installation Instructions			
The wall mount box and the mounting kit may be installed in a cut-out in the wall, wooden structure thick at least 1.5cm or in a dry mortarless construction. The cut-out has to respect the sizes specified in the technical data and has to be at least 9cm deep. In the wall cut-out the box can become build in while it can be screwed on in a piece of furniture. It is important the fore edge of the SPxxEBGD is flat and horizontally to the surface of the wall or the piece of furniture.			







SPxxTBKD

Mounting guide for plaster wall / wooden structure

